Course name

Grade 11 physics

Course summary and expectations

* Begins the study of concepts that will form the foundation for you to study physics in the future.
* You have already studied some concepts in physics. For example, in grade nine science you studied electricity. In grade ten science you studied the motion of vehicles and passengers, specifically how and why they move.
* In turn, the concepts that you learn in Grade 11 Physics will prepare you for Grade 12 Physics. In this course, you will use scientific and technology-related knowledge to understand and interpret your environment, you will develop your mathematical and analytical skills, and demonstrate the application of the scientific method through virtual or at-home lab assignments.

Module listing

Module 1: Waves in One Dimension

* Observe, measure, and calculate the properties of transverse and longitudinal waves in one dimension, including amplitude, wavelength, wave speed, period, frequency, and both constructive and destructive interference.

Module 2: Waves in Two Dimensions

* Observe, measure, and calculate two dimensional wave phenomena such as reflection, refraction, diffraction, and interference.

Module 3: Sound

* Observe, measure, and calculate objective and subjective properties of sound waves, including intensity, loudness, frequency, pitch, and resonance.

Module 4: Models, Laws, and Theories

* Compare, contrast, and apply the definitions of models, laws, and theories.

Module 5: The Wave and Particle Models of Light

* Understand light’s wave and particle properties and the historical development of these models.

Module 6: Kinematics

* Definitions and equations relating velocity, displacemement, position, and acceleration, and the difference between scalar and vector quantities.

Module 7: Dynamics

* Two-dimensional vectors, the definition of and types of forces, Newton’s three laws, and how force affects motion.

Module 8: Gravitational Fields

* Two-dimensional problems involving the force of gravity (i.e., weight), applied forces, the normal force, and both static and kinetic friction.

Module 9: Electric Fields

* Electric charges, electric forces, and electric fields.

Module 10: Magnetic Fields

* Magnets, magnetism, and magnetic fields.

Module 11: Electromagnetism

* The relationship between electric charges and the formation of magnetic fields.

Evaluation/grading summary

Assignments: 37 module assignments weighted at 40%.

Tests: 9 module tests weighted at 40%.

Labs: 3 module labs weighted at 10%.

Exam: Summative final exam weighted at 10%.